

Claim 1 claims an electronic apparatus comprising an electronic circuit board, an electrically conductive casing, a semiconductor element module and a resin fixture. The electrically conductive casing is for encasing the electronic circuit board. The semiconductor element module electrically is connected to the electronic circuit board via a plurality of lead terminals. The semiconductor element module has a column-shaped section. An axis of the column-shaped section is parallel to a direction of extension of the lead terminals. The resin fixture intervenes between the electrically conductive casing and the semiconductor element module. The resin fixture is mounted with the semiconductor element module and is fitted to the electrically conductive casing. The resin fixture has a cylinder-shaped section for retaining, in its inner periphery, the column-shaped section of the semiconductor element module. An outer periphery surface of the cylinder-shaped section is plated and an inner periphery surface of the cylinder-shaped section is not plated.

Through the structure of the claimed invention having an outer peripheral surface of the cylinder-shaped section being plated and an inner peripheral surface of the cylinder-shaped not being plated, as claimed in claim 1, the claimed invention provides an electronic apparatus which allows the semiconductor element module to be reliably fitted to the resin fixture and ensures electrical insulation between the semiconductor element module and the casing. The prior art does not show, teach or suggest the invention as claimed in claim 1.

Claims 1 and 8 were rejected under 35 U.S.C. § 103 as being unpatentable over *Teruhiro* (Japanese Reference 09-270747) in view of *Sawada* (U.S. Patent No. 6,004,046).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for

reasons which are set forth below, Applicant respectfully requests that the Examiner withdraws the rejections to the claims and allows the claims to issue.

Teruhiro appears to disclose in Figure 1 a casing 14, a block 16, an opening 18 formed in the casing and an opening 19 formed on each of two opposite side surfaces of the block 16. The opening 18 and the opening 19 engage with each other. As shown in Figure 6, the assemblies are mounted into the casing 14 in such a manner that the convex portion or opening 19 formed on the side surface of the block 16 fits into the opening or convex portion 18 formed on the side surface of the casing 14. Openings 20a, 20b in the block are formed such that the lead terminals 14a and 14b are individually inserted therein. The lead terminal 40a is soldered to the opening 22a of the flexible substrate and lead terminal 4b is soldered to the opening 22b of flexible substrate.

Thus, *Teruhiro* merely discloses a U-shaped block. Nothing in *Teruhiro* shows, teaches or suggests a resin fixture having a cylinder-shaped section for retaining in its inner periphery the column-shaped semiconductor element module as claimed in claim 1. Rather, *Teruhiro* merely discloses openings 20a, 20b formed in the block 16 for the lead terminals of optical semiconductor module 3.

Additionally, *Teruhiro* does not show, teach or suggest having an outer peripheral surface of the cylinder-shaped section, which retains the semiconductor element module, being plated while the inner peripheral surface is not plated as claimed in claim 1. Rather, no plating is shown, taught or suggested by *Teruhiro*.

Sawada appears to disclose in FIG. 1, a light-receiving module which comprises a housing 2 accommodating therein a light-receiving device as a semiconductor device and

having a mount surface for holding the semiconductor device. The housing 2 is provided with a sleeve 22 extending in a predetermined direction from a side wall and supporting a ferrule 26 attached to a tip of an optical fiber 24 in a state where the ferrule 26 is accommodated therein. (col. 6, lines 9-16) The ferrule 26 and optical fiber 24 are protected with a rubber cover 30 or the like as shown in FIG. 2. As shown in FIG. 1, the sleeve 22 is provided with a plurality of through holes 220 for bonding the ferrule which extend along the projecting direction of the sleeve 22. (col. 6, lines 28-32) Formed in a side wall of the housing 2 is a light entrance hole 16 having a predetermined inside diameter defined by a flange 231. The light entrance hole 16 is covered with a transparent window member 18 (e.g., sapphire window) firmly attached to the inner end face of the housing 2. Attached to the outer end face of the housing 2 is a barrel shaped sleeve 22 corresponding to the light entrance hole 16. The ferrule 26 attached to the tip of the optical fiber 24 is inserted into the sleeve 22. (col. 6, line 63 through col. 7, line 4)

Thus, *Sawada* merely discloses at Figure 4 the connection between an optical fiber 24 and an optical semiconductor element module which is formed by the housing 2, sleeve 22, rubber covering 30 and lead 10. In other words, the light receiving module of *Sawada* merely discloses the structure shown in Figure 1A of the present application for the fiber 5 and coaxial optical semiconductor element module 6. Nothing in *Sawada* shows, teaches or suggests how to connect the light-receiving module to an electrically conductive casing as claimed in claim 1. In particular, *Sawada* does not show, teach or suggest a resin fixture intervening between the electrically conductive casing and the semiconductor element module and the structure of the resin fixture as claimed in claim 1. Rather,

Sawada merely discloses an optical fiber and an optical semiconductor element module. In other words, Figure 4 of *Sawada* merely discloses an optical connector for optically connecting an optical fiber 24 and a light-receiving module 2. However, as claimed in claim 1, the present invention is directed to a resin flange connecting a light-receiving module (optical semiconductor element module) including a lead and an electrically conductive casing which connects with the lead. Thus, *Sawada* and the invention claimed in claim 1 are completely different elements.

The combination of *Teruhiro* and *Sawada* would merely suggest to replace the optical semiconductor module 3 of *Teruhiro* with the device of *Sawada* and to connect them via the openings 20 in the block 16 of *Teruhiro*. Thus, nothing in the combination shows, teaches or suggests a resin fixture as claimed in claim 1.

Since nothing in *Teruhiro* or *Sawada* show, teach or suggest a resin fixture as claimed in claim 1, it is respectfully requested that the Examiner withdraws the rejection to claim 1 under 35 U.S.C. § 103.

Claim 8 depends from claim 1 and recites additional features. It is respectfully submitted that claim 8 would not have been obvious within the meaning of 35 U.S.C. § 103 over *Teruhiro* and *Sawada* at least for the reasons as set forth above. Therefore, it is respectfully requested that the Examiner withdraws the rejection to claim 8 under 35 U.S.C. § 103.

Claims 4-6 and 10-15 were rejected under 35 U.S.C. § 103 as being unpatentable over *Teruhiro* in view of *Sawada* and further in view of *Suzuki et al.* (U.S. Patent No. 5,073,047).

Applicant respectfully traverses the Examiner's rejection of the claims under 35 U.S.C. § 103. The claims have been reviewed in light of the Office Action, and for reasons which are set forth below, it is respectfully requested that the Examiner withdraws the rejection to the claims and allows the claims to issue.

As discussed above, nothing in *Teruhiro* or *Sawada* show, teach or suggest the primary features as claimed in claim 1. Therefore, it is respectfully submitted that the combination of *Teruhiro* and *Sawada* with the secondary reference of *Suzuki et al.* will not overcome the deficiencies of the primary references. Therefore, it is respectfully requested that the Examiner withdraws the rejection to claims 4-6 and 10-15 under 35 U.S.C. § 103.

Thus, it now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested. Should the Examiner find that the application is not now in condition for allowance, Applicant respectfully requests the Examiner enters this response for purposes of appeal.

If for any reason the Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the currently set shortened statutory period, applicant respectfully petitions for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our
Deposit Account No. 02-4800.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

~~Ellen Marcie Emas~~

Registration No. 32,131

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: October 24, 2002